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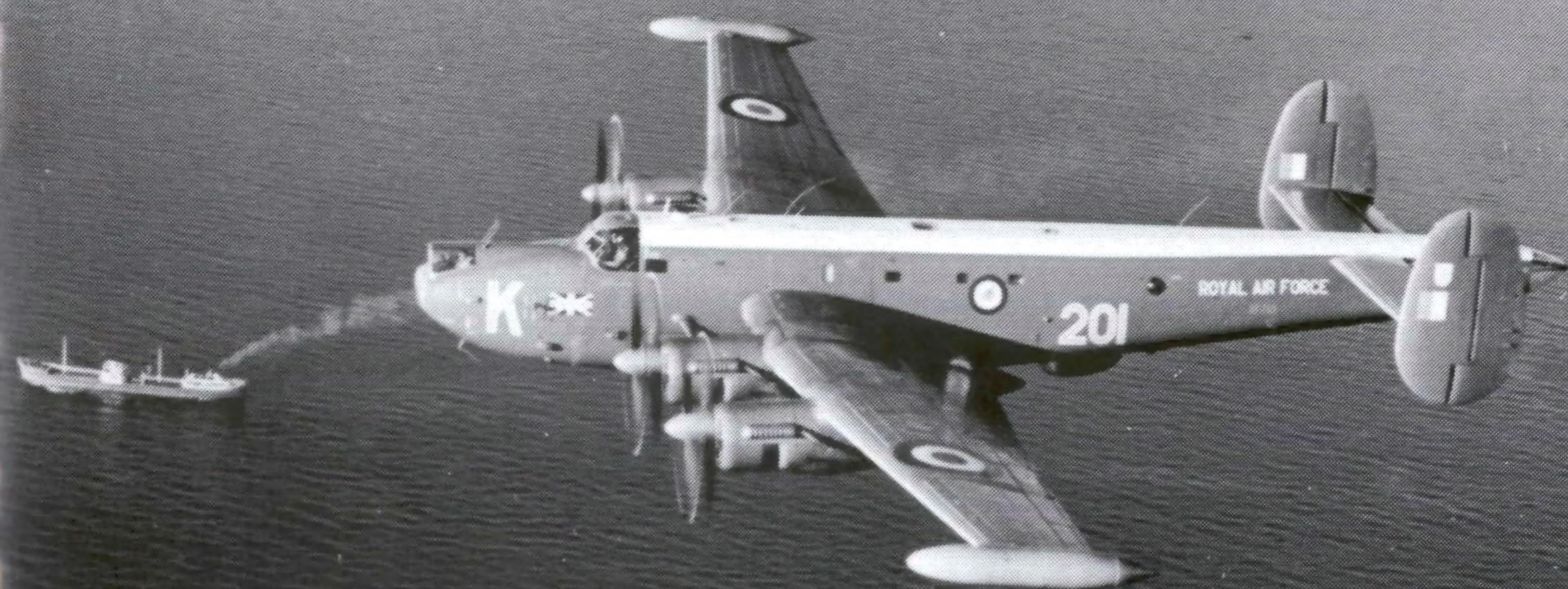
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# **AVRO SHACKLETON**

## **MR.Mk.3**

By Chris Ashworth



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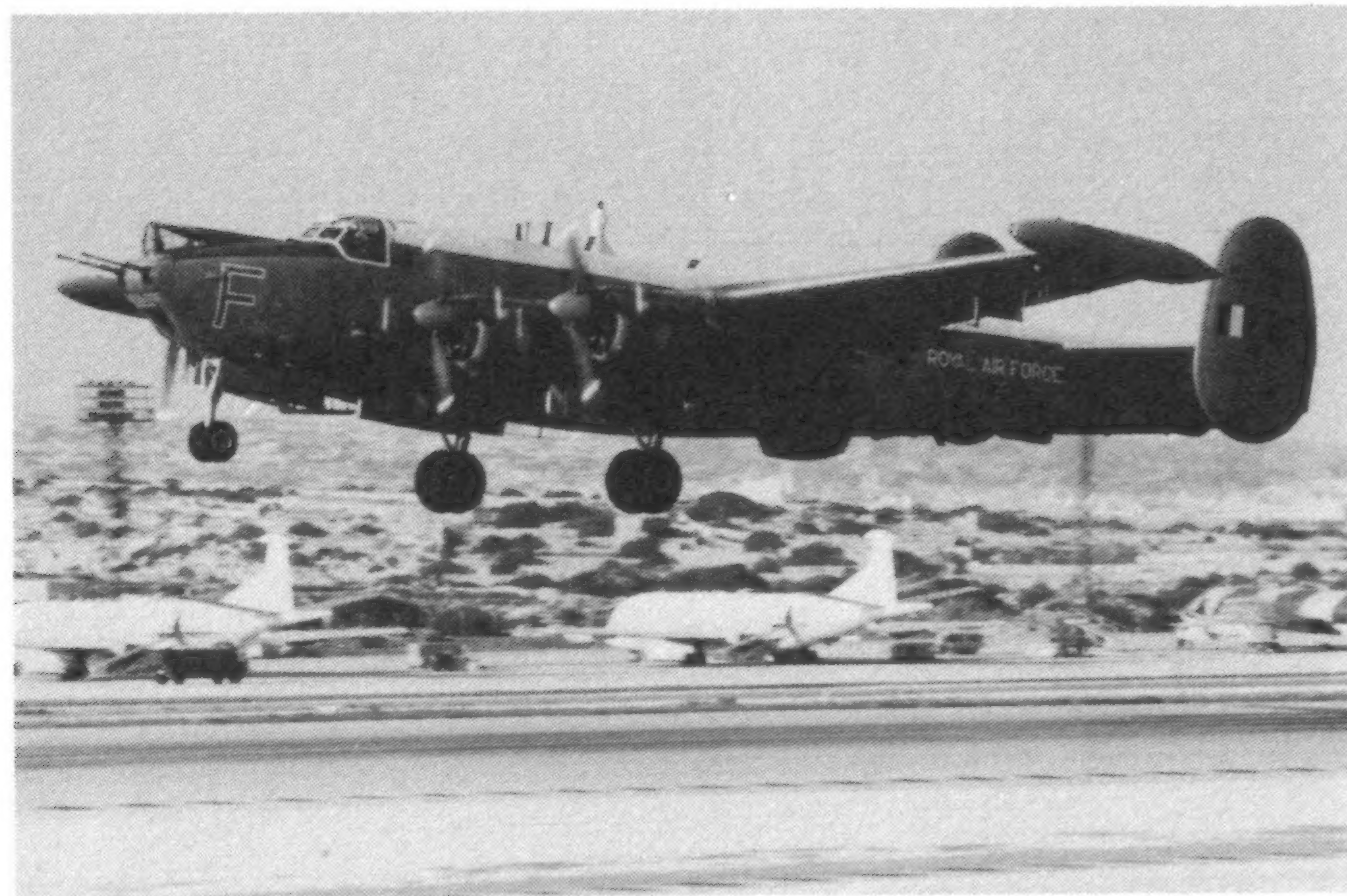
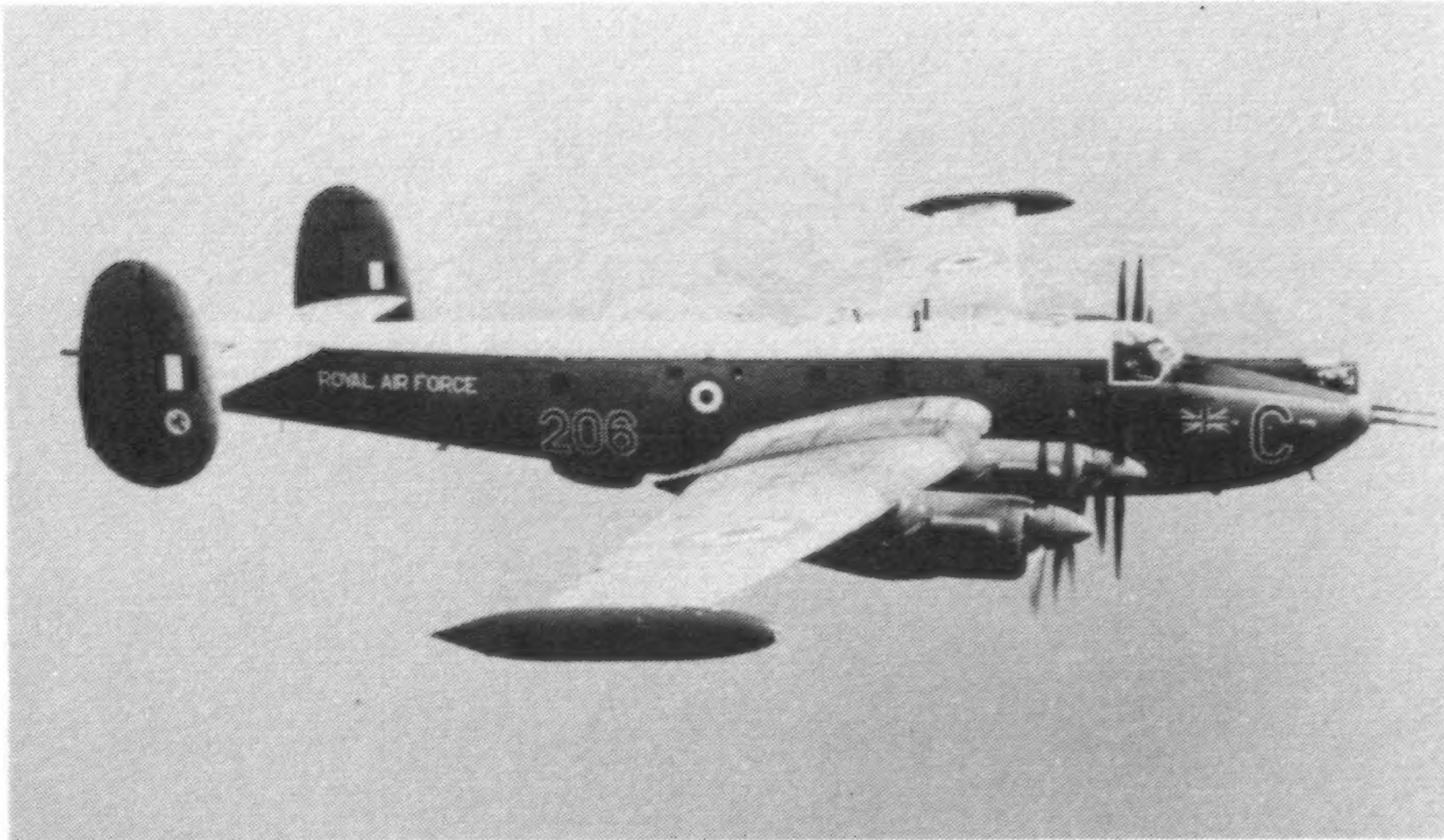


# Avro Shackleton

## MR.Mk.3

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By Chris Ashworth



Front cover: Shackleton MR.3 WR976 from No.201 Sqn which was descended from the first squadron to be equipped with the type, namely No.220 during 1957. It was delivered in August 1957 and is seen in its original colours. (MoD Air) Top: Shackleton MR.3 XF707 seen as a Phase 2 aircraft when in service with No.206 Sqn. Note that it is carrying twin 20mm cannon in the nose. (MoD Air) Above: This Shackleton MR.3 is seen taking off from RAF Luqa, Malta when, as part of No.203 Sqn, it took part in exercise 'Lime Jug 70' in November of that year. (G.Mangion)

THE Avro 696 Shackleton was developed to Air Ministry Specification R5/46 as a specialised anti-submarine aircraft to replace a projected general reconnaissance version of the Lincoln which had proved inadequate. The new aircraft used the Lincoln/Tudor wing married to a completely new fuselage and tail assembly.

The Mk.1 variant went into service without its intended forward-firing armament and was soon found to have a number of other shortcomings. These resulted in a general re-design of the fuselage to incorporate a new twin 20mm cannon-armed Boulton Paul Type 'N' gun mounting, a prone bomb-aiming position in the nose and a visual look-out station in the tail cone. The ASV radar scanner was removed from the nose and relocated in a retractable ventral mounting immediately aft of the bomb-bay.

These changes resulted in the much improved Mk.2, but the already tricky crosswind landing characteristics of the Mk.1 were compounded by the nose gunners' station which obscured the pilot's view of the runway when landing with the wind from the port quarter. The obvious answer was to introduce a nose-wheel undercarriage and this feature, plus a number of other radical changes, was offered to the Air Ministry in the projected Type 716. This proposal was rejected in favour of a revised version of the Avro 696, the necessary re-design being covered by Issue 3 of Specification R5/46 dated 18 November 1953.

Designated the MR Mk.3, the new variant had a fuselage externally identical to the Mk.2 except for the deletion of the dorsal turret, the introduction of a nosewheel housing and addition of an entrance hatch forward of the shortened weapons bay. Internally however the aircraft was completely different. The tactical team were seated side-by-side facing to port instead of being in separate compartments. An improved galley and rest area was also introduced and the dreary black-painted structure of earlier versions was covered by heavy glass fibre sound-proofing with a brown and cream rexine covering. All crew positions were equipped with padded seats and the view from the cockpit was much improved by large frameless panels.

The wings were changed in planform by the addition of 256-gallon tip tanks and larger ailerons which were made more effective by spring tabs. The internal fuel





**The first production Shackleton MR.3 WR970, was also the prototype. It first flew on 2 September 1955 from Woodford and appeared in the SBAC Show at Farnborough two days later. Whilst engaged on stall warning trials it got out of control and crashed in the Derbyshire Peak District on 7 December 1956. (via author)**

capacity was also increased by using five self-sealing flexible tanks in each wing while the large twin-wheel main undercarriage assemblies were attached to the rear spar and retracted forwards into the inboard engine nacelles.

Contract 6408 (which covered late production Mk.2s) was changed, the last 21 aircraft (WR970-990) being re-negotiated to appear as Mk.3s and orders were placed for a further 30 (XF700-711, 730-734 and XG912-924). The first of the batch became the production prototype, WR970 making its maiden flight from Woodford on 2 September 1955, just in time to appear at the SBAC Show two days later. It was painted high-gloss Dark Grey overall with large white serials. Trials revealed generally pleasant handling qualities except for the stall which proved unpredictable. After delayed acceptance trials at the A&AEE Boscombe Down during August to November 1956 the aircraft was returned to Woodford for further stall warning development. While engaged on this work on 7 December 1956 the aircraft became inverted in cloud. The pilot, S/Ldr J. B. Wales, regained control but the engines failed to respond and the aircraft crashed in the Derbyshire Peak District near the village of Foolow.

Meanwhile a Defence Review had already resulted in the production order being cut to 34 in March 1956, XF730 being the last aircraft on the revised contract. This was offset to some extent by an order for eight similar aircraft from the South African Government.

The second Mk.3 (WR971) was flown for the first time on 28 May 1956 and was just about to be delivered when the crash of WR970 forced its retention for further development trials together with WR972-974. Thus it was South Africa which first took delivery of a Shackleton Mk.3 when 1716 and 1717 were formally handed over at

Woodford on 16 May 1957 and flown to St Mawgan for conversion training five days later.

The RAF Handling Squadron finally received WR975 in July 1957, being quickly followed by No.220 Squadron which acquired its first aircraft at St Mawgan on 30 August. They began operational flying in November in preparation for the intensive trials scheduled for February 1958. The trials were bedevilled by spares problems and were twice stopped in April for technical reasons. Then, two aircraft had hydraulic failures during May resulting in the nosewheels collapsing on touchdown and as a result all Shackletons were grounded until June.

Meanwhile, No.206 Sqn had started to receive Mk.3s at St Mawgan in February 1958 but retained the Mk.1 for operational flying. They took part in the intensive flying trials when they restarted in June and the required 1,000 hours were duly completed on 6 August. Both squadrons then became involved in the usual round of exercises and training, taking part in 'Tallyho' and 'Shipshape' during September.

The re-equipment of No.120 Sqn now started, while No.220 was redesignated as No.201 on 10 October and No.203 Sqn began re-equipment from the Mk.1 in December 1958. The intended ASV Mk.21 was not available for these early aircraft which had to be fitted with the inferior Mk.13 and it was not until February 1959 that the first fully modified aircraft was delivered. In addition to the new ASV, it was fitted with a number of other radio/radar modifications, including 'Blue Silk' doppler and a new radio altimeter, the whole package being known as the Phase 1 fit. The remainder of the batch was completed to the same standard and earlier aircraft went to No.49 MU at Colerne to be modified.

Overseas flights became more common in 1959, a single aircraft from No.203 Sqn Shackleton MR.3 WR972 was one of five aircraft retained by the manufacturers and Boscombe Down for development trials. During the course of these WR972 was fitted with a Mk.3 Airborne Lifeboat for use in Air-Sea Rescue duties. Although the experimental work was completed, the project was not proceeded with due to the advent of the more versatile helicopter in the ASR role. (Avro picture 308/41/C)





going to Singapore during February and five from No.206 being detached to Gibraltar for an exercise during the same month. While at Gibraltar F/Lt D. R. Foster flew an endurance test using a 400-gallon auxiliary tank in the bomb-bay. The aircraft stayed airborne for 24 hours 21 minutes and covered 3,440 miles — a record for the Mk.3 which has remained unbroken.

No.120 Sqn moved to Kinloss in April and promptly flew out to the Caribbean for 'Calypso Stream' — showing the 'flag' around the islands. On 8 May 1959 the first Phase 1 aircraft, XF707, left St Mawgan piloted by the Commanding Officer of No.201 Sqn, Wg Cdr J. C. Roberts, on Operation 'Globetrotter'. This was in response to requests by the Indian and Royal New Zealand Air Forces for demonstrations of the Mk.3. After successful visits to India and New Zealand the aircraft continued across the Pacific and returned home via the United States. During the autumn a large NATO exercise, 'Fishplay IV', was held off the Canadian and American Atlantic seaboard resulting in No.201 Sqn being detached to Greenwood, Nova Scotia and No.203 to Norfolk, Virginia.

All Mk.3 squadrons had received their Phase 1 aircraft by mid-1960 and the autumn proved very busy indeed. No.206 Sqn sent two aircraft to Argentina in September for that country's Air Force celebrations, and during the same month all units took part in 'Fallex 60'. No.201 also performed daily at the SBAC Show, an aircraft taking off at the end of each display and landing back at Farnborough 22 hours later to demonstrate the aircraft's powers of endurance. In November No.203 Sqn took three aircraft to Cape Town for 'Capex 60', an exercise with Royal Navy and South African Navy units.

It was not long before Phase 2 modifications were under way. These again largely concerned avionic changes, in particular the introduction of new sonics equipment, Tacan and 'Orange Harvest' (ECM). The aerial for the latter sat on the top of the fuselage and was a prominent feature of this modification standard.

No.120 Sqn received the first Phase 2 aircraft in May 1961, followed by No.206, which then went to South Africa for the annual 'Capex', and No.203 Sqn. Conversion of the fourth squadron was completed early in 1962 when No.201 received its full complement, but almost immediately No.203 Sqn started losing its Mk.3 aircraft, receiving Mk.2s instead. This was to make aircraft available for the Phase 3 modification programme, a major operation which required each aircraft to be returned to industry for a lengthy period.

An aircraft of No.120 Sqn went to the USA to demonstrate the Ic Sonics equipment of the Phase 2 during March 1962, and in October all the squadrons found themselves involved in the Cuba crisis, sorties being flown to locate Russian cargo ships en route to the Caribbean. The planned detachment to the West Indies by No.201 Sqn was cancelled due to the crisis and when 'Main Rum III' was re-instated it was three No.120 Sqn aircraft which went. They arrived at Antigua on 9 November and then moved on to Trinidad, Barbados and Bermuda before starting their return journey to Kinloss on the 21st.

Meanwhile, the Phase 3 programme was getting under way at the Woodford and Langar factories of A. V. Roe. It involved a complete airframe rebuild and the introduction of new navigation and compass systems. The tactical area was enlarged by moving a bulkhead further aft, and the 'dinette' and rest room modified to make better use of the reduced area available. Offensive capability now included nuclear depth bombs in addition to homing torpedoes and the new systems increased the electrical loads which required larger generators and invertors. These needed revised engine gearboxes resulting in the power plants being re-designated Griffon 58s.



These two pictures show one of the early colour schemes used on operational Shackleton MR.3s. An overall Dark Sea Gray was employed with the squadron number on the rear fuselage in red outlined in white. An individual aircraft code letter usually appeared on the nose. Above: An unidentified aircraft of No.120 Sqn. (MAP) Below: WR987 seen during a visit to Malta shortly after No.220 Sqn had been renumbered as 201 in October 1958. (Author)



These changes produced a 6,500 lb increase in the empty weight and to maintain the aircraft's range, approval was sought for a maximum all-up weight of 105,000 lbs. Three aircraft, (WR974, WR982 and XF711) were allocated for trials of the Phase 3 systems. The first of these (XF711) underwent stripping at Woodford in October 1962, the conversion taking over a year and it did not fly again until 9 April 1964. Meanwhile, the estimated weight increases were giving great concern and after considering the fitting of a Spectre rocket motor under each wing to provide added thrust on take-off it was finally agreed in October 1963 to fund the installation of a Viper engine in the rear of each outer Griffon nacelle, using WR973 as a test-bed.

Trials of these aircraft began in 1964, WR974 being used for the navigation and radio tests, WR982 for armament trials and XF711 for general performance evaluation, while WR973 made its first flight with the 2,500 lbst Viper 203s early in 1965.

No.201 Sqn spent a fair proportion of 1963 on the other side of the Atlantic, six aircraft visiting the USA for exercises in April-May and four going to Nassau for two months during the autumn. While they were there, Hurricane 'Flora' struck the West Indies and two Shackletons ferried emergency supplies to Cuba.





**Shackleton MR.3 XF703 seen during its early service with No.203 Sqn before being converted to Phase 2 standard. Note that the squadron number on the rear fuselage is non-standard in being much smaller than normal practice. This machine was the last to be in service with No.18 Group and is now at RAF Henlow where it is part of the RAF Museum's collection. (APN)**

During 1964 Nos.201 and 206 Squadrons both spent some time in Cyprus and in January 1965 the first Phase 3 deliveries were made to the latter unit. No.201 Sqn moved from St Mawgan to Kinloss in March and immediately received newly converted aircraft. Phase 3 deliveries to No.120 Sqn started in July, the operational strength at Kinloss being brought up to three squadrons when 206 changed places with the Maritime Operational Conversion Unit during the same month. No.42 Sqn was left at St Mawgan and also replaced its faithful Mk.2 Shackletons with Phase 3 Mk.3s in November and December 1965.

Following increased tension between Indonesia and Malaysia, Far East detachments now began, three aircraft from No.201 Sqn going to Singapore to assist No.205 Sqn in patrolling the Malacca Straits. They were replaced by No.206 Sqn in January 1966, but returned in April and, after moving to Borneo, remained until the end of the confrontation in August 1966.

None of these Phase 3 aircraft had Vipers installed and, although cleared to operate at an all-up weight of 105,000 lbs, they usually flew at a maximum of 100,000 lbs because of their marginal performance in the event of engine failure. It was therefore with some relief that Viper-fitted aircraft started to appear on the squadrons in May 1966. No.206 Sqn received the first, followed by No.203 Sqn when they began to re-equip from Shackleton Mk.2s in June. Initially, the Vipers could only be used for take-off, this allowing the weight of the six-engined Shackleton to rise to 108,000 lbs but it meant that once airborne the four Griffons had to be run at maximum continuous power for long periods. Later, the Vipers' controls were modified so that the rpm could be varied and the engines were cleared for prolonged operation, thus allowing more economical power settings to be used on the Griffons during the early stages of a long flight.

From March 1966 Nos.37 and 38 Squadrons (Mk.2s) operated a detachment at

Majunga on the island of Malagasy to locate 'pirate' tankers making for the Mozambique port of Beira with oil for 'rebel' Rhodesia. In January 1967 this detachment was taken over by Viper-equipped Mk.3s from No.42 Sqn and regular three-month detachments were also made in support of AFME (covering internal security operations in Aden) and FEAF (SAR at Gan).

The additional equipment installed during the various modification programmes had not only increased the weight but also moved the centre of gravity aft, degrading the handling qualities. After a couple of accidents and a 'near miss' when a Shackleton Mk.3 Ph 3 just reached Lisbon after engine problems during a flight from Gibraltar, it was decided that weight had to be taken out of the tail. This was done by removing the sound proofing from the rear of the aircraft, an action which proved surprisingly effective though it made the beam lookout positions very uncomfortable.

Kinloss had re-introduced centralised servicing in February 1967 and the aircraft lost their squadron identity and markings, retaining just an individual code letter. During the same month, two aircraft with No.206 Sqn crews circumnavigated the globe, but most flying was concentrated on NATO exercises and detachments in support of Britain's interests around the world. In 1968 these included operations from Sharjah in support of the Sultan of Oman's forces in the Gulf and a detachment of four aircraft from No.42 Sqn to Malta to counter the Russian naval build-up in the Mediterranean. Meanwhile, the Majunga detachments had been handed over to Mk.2 units from Ballykelly because of problems associated with operating the heavier Mk.3s out of the airfield.

The Malta detachments were replaced by the permanent move of No.203 Sqn to Luqa on 30 January 1969 and for the next three years they kept an eye on the Russians and also took part in major NATO and CENTO exercises. No.42 Sqn, which had temporarily increased in strength while the Kinloss units were converting to Nimrods, relinquished its Shackletons in September 1971, followed by No.203 Sqn which started to convert in October. It had been the intention for them to retain four Shackleton Mk.3s until March 1972 but disagreements with the Maltese Government came to a

**The scoops for the Viper engine intakes can be seen protruding below the outer engine nacelles in this picture of Shackleton MR.3 Phase 2 XF706. The aircraft was coded 'E' at the time and was part of No.42 Sqn, then based at RAF St. Mawgan. (APN)**





head at the end of 1971 and forced the squadron to move to Sigonella. With severe accommodation problems in Sicily it was decided to dispose of the Shackletons immediately, the four aircraft flying home to No.5 MU at Kemble during January 1972.

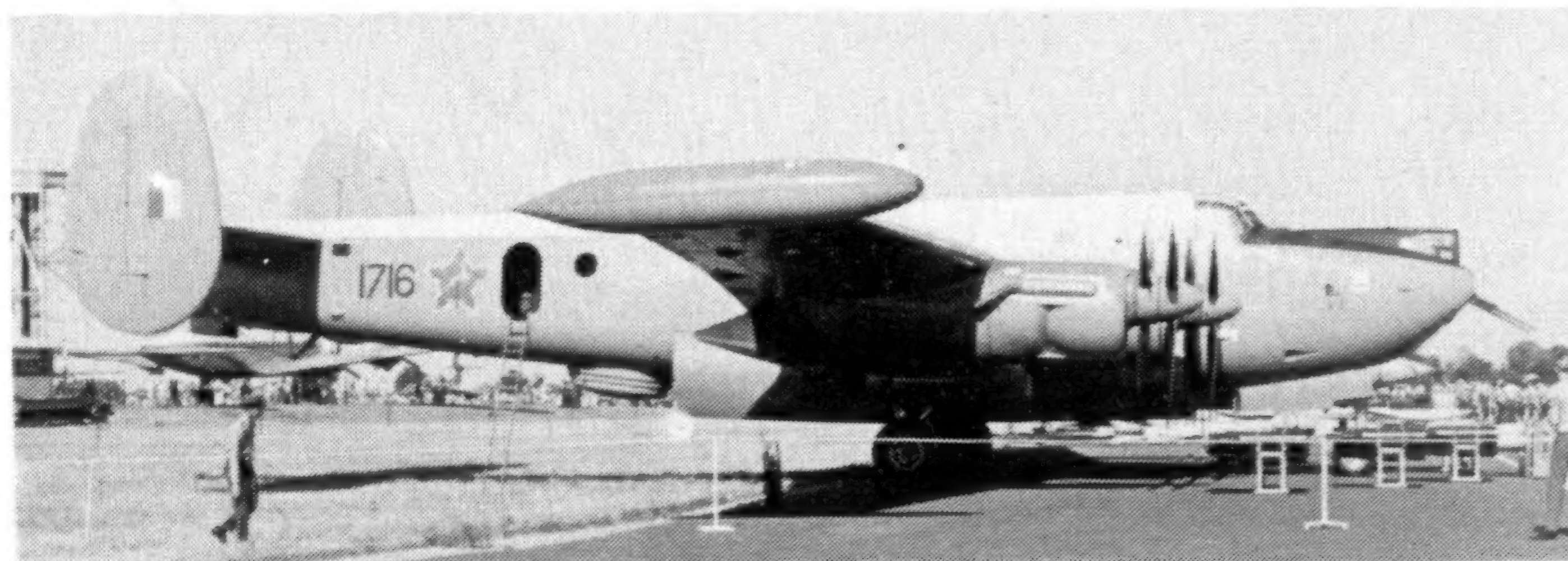
But the Mk.3 was by no means finished. The RAE continued to operate WR972 on parachute drag trials until February 1973 and the South African Air Force are still flying their seven remaining aircraft. The first three Shackletons arrived in South Africa on 18 August 1957 and made their first border patrol six months later, the 2,900 mile flight taking 14½ hours. Although basically similar to the RAF aircraft, the SAAF Mk.3s were built to an improved standard and fitted with additional internal equipment to extend their usefulness in the secondary tactical bomber and troop transport roles. The most noticeable difference is the attractive light and dark green interior trim and external dark sea grey upper surfaces with PRU blue undersides. Early aircraft had roundels with 'springboks' superimposed, but the last four were delivered in February 1958 with the current 'castle' insignia. Later, the fuselage top surfaces were painted white, in similar fashion to RAF aircraft, to reduce inside temperatures when the aircraft is standing in the sun.

The improved specification resulted in the SAAF avoiding many of the technical problems experienced by the RAF, but spares difficulties, especially with the Griffon engines, caused aircraft to be put into storage for long periods. Despite this, they have been steadily updated in line with RAF aircraft and, apart from the one aircraft lost in a crash on 8 August 1963, were all resparred at Ysterplaat during 1975-76, now corresponding generally to the Phase 3 (non-Viper) standard.

Flying from D. F. Malan Airport, Cape Town, they have been guarding one of the world's most important shipping routes for nearly 25 years. They have also been responsible for several long-range search and rescue operations, notably the location of the crew of Buccaneer S.50, 417 which ditched near Ascension Island during its delivery flight on 30 October 1965. During the early sixties No.35 Squadron, SAAF, sent aircraft to the United Kingdom on several occasions for exercises and liaison, but since the virtual isolation of the country they have confined their activities to immediate South African spheres of influence.

With the refusal of the Western Powers to permit the sale of modern maritime reconnaissance aircraft to South Africa the Shackleton seems destined to soldier on through the 1980s and probably into the '90s — not a glamour girl, but a true workhorse.

**Shackleton MR.3 1716 was the first to be delivered to the South African Air Force in May 1957. It first flew from Woodford on 29 March the same year. It was coded 'J' and became part of No.35 Sqdn. based at D.F.Malan airport Capetown. (APN)**



**Eight turning, two burning! Shackleton MR.3 XF708 of No.203 Sqdn on short finals at RAF Luqa, Malta in June 1970. (Godfrey Mangion)**

## Avro Shackleton MR.Mk.3 individual aircraft histories

### Contract Acft 6/A 6408 CB.6a

**WR970** first flown 2.9.55. Controller (Aircraft) development trials by manufacturer at Woodford. Aw/cn 14.9.56 and went to A&AEE Boscombe Down for initial acceptance trials. Returned to Avro for further stall warning development 28.11.56 and crashed at Foolow, Derbyshire 7.12.56.

**WR971** first flown 28.5.56. Retained by Avro for development trials until 12.56 when delivered to A&AEE for armament and stores trials. Following crash of WR970 it was returned to C(A) trials at Avro 31.12.56 on free loan until 31.10.58 but spent much of its time at A&AEE on armament work. More A&AEE trials followed during 1959 and it was then modified to full Ph 1 production standard and issued to 206 Sqn

7.10.60. Transferred to 120 Sqn same day and coded 'C'. To Avro for Ph 2 modifications 4.62, returning to 120 Sqn 22.5.62 and becoming 'E'. To HSA 9.63 for Ph 3 conversion, joining 201 Sqn as 'P' in 4.65. Viper fit and repair at HSA Llangar 11.66-6.67 when to Kinloss Wg as 'Q' At Bitteswell 8.68-10.68 for mods, returning to Kinloss still as 'Q'. To 60 MU 7.69-8.69 and Bitteswell 11.69-1.70 then back to Kinloss (flown by 120 Sqn). To Cosford as instructional airframe 8119M 16.12.70.

**WR972** first flown 6.11.56. Aw/Cn 18.12.56 but retained for C(A) development trials at Woodford on 18-month free loan. Visits to A&AEE Boscombe Down 1.57-6.57 for navigation, photo and radio trials, 9.58-2.59 for armament and radio trials. Purchased by



the Min Av 13.3.59 for the RAE, but carried out bomb bay trials at A&AEE 4.60-9.60 before delivery to RAE Farnborough 13.4.61 for parachute testing. Painted silver overall with black and yellow stripes on undersides until 3.68 when it reappeared from the paint shop with white upper surfaces and medium grey lower surfaces divided by a blue cheat line. Withdrawn from use at Farnborough 2.73.

**WR973** Aw/cn 1.2.57 but retained for development work at Woodford until 31.1.59, with spells at A&AEE for auto pilot trials 7.57-8.57 and 4.58. Brought up to full Ph 1 standard at Avro 4.59-2.60 and issued to 203 Sqn 25.2.60 receiving code 'E'. To 49 MU for Ph 2 mods 7.60, 23MU 9/60 before returning to 203 Sqn 10.60 still as 'E'. Moved to 206 Sqn 29.1.62 as 'C'. To Avro for Ph 3 conversion 7.63 and became first aircraft with Vipers in outboard nacelles. Issued to MoA 29.1.65, it made its first flight in the new configuration 29.2.65 and was delivered to the A&AEE for performance trials which included hot weather tests in the USA and which were extended several times. To 206 Sqn 5.66 beoming 'U' retaining this code with the Kinloss Wg from 2.67. Remained at Kinloss apart from visits to Bitteswell 3.68-5.68, 12.69-2.70 and 10.70-11.70 for mods and overhaul. In 12.70 joined 42 Sqn at St Mawgan and recoded 'B'. To Thorney Island for fire practice 14.6.71.

**WR974** Aw/cn 31.5.57 and released for C(A) development work on 12 months free loan. Carried out armament trials at A&AEE Boscombe Down, including hot weather tests at Idris, Libya 7.57-8.57. Modified at Woodford 8.57-9.57 before returning to

A&AEE for extended trials until 30.5.58. To 23 MU 24.9.58 and 203 Sqn 12.58 as 'F'. Badly damaged landing at Dartmouth, Nova Scotia 18.8.59. Repaired by Fairey Aviation of Canada and ferried to the UK 19.11.59 to return briefly to 203 Sqn before undergoing Ph 2 mods and further repair at Avro 6.60. On completion was stored and then joined the MoA fleet 26.1.62 as one of the Ph 3 TI aircraft. On completion of conversion carried out winterisation trials in Canada and navigation, radio and oil cooling hot weather tests 7.65-3.66. To ASWDU 6.66-7.66 and then HSA Bitteswell for further mods. Loaned to MinTech 28.2.67 for tests at Farnborough by the Radio Flight until 7.67. Spent some time at A&AEE during 9.67 before re-delivery to ASWDU 2.68-4.68. Again loaned to MinTech 4.68-8.68 when issued to 203 Sqn becoming 'H'. Loaned to 42 Sqn 9.68-1.69. WR974 then went to Bitteswell 1.70-3.70, returning to 203 Sqn 26.3.70 for a few days before transfer to the Kinloss Wg 6.4.70 becoming 'P'. To Cosford 11.12.70 as Instructional Airframe 8117M.

**WR975** Aw/Cn 26.6.57. To RAF Handling Sqn 7.57, returning to Avros for a sales tour of Portugal 8.57. Back with Handling Sqn for the production of aircrew notes 8.57-10.57. To 23 MU 10.57 before delivery to 220 Sqn 11.57 to become 'P'. Suffered hydraulic failure 5.5.58 at St Mawgan. Repaired by 49 MU 5.58-2.59. To 201 Sqn, still as 'P' 3.59 until 8.59 when to 49 MU for Ph 1 mods. Issued to 203 Sqn as 'F' 11.59 until 8.61. To 49 MU for Ph 2 mods 8.61-9.61 returning to 203 Sqn as 'F' until moved to 201 Sqn 8.62-3.63 as 'O'. Then underwent Ph 3

**Shackleton MR.3 WR971 of No.120 Sqn at RAF Ballykelly, Northern Ireland, shortly after its conversion to Phase 2. The ECM plinth is in position but the head is not fitted. (Author)**



**Coded 'D' but without the squadron number on the side, Shackleton MR.3 WR979 was serving with No.120 Sqn. at the time this picture was taken in May 1969. (G.Mangion)**



**Two of a kind. Both coded 'A' with No.120 Sqn. these two Shackleton MR.3s are (above) XF700 which served with the squadron between September 1958 and July 1962 whilst (below) XF708 took this code from August 1963 to November 1965. The former was seen at Odiham during a Farnborough week (APN) whilst the other was photographed at a Lakenheath open day in the mid-sixties. (A. W. Hall)**



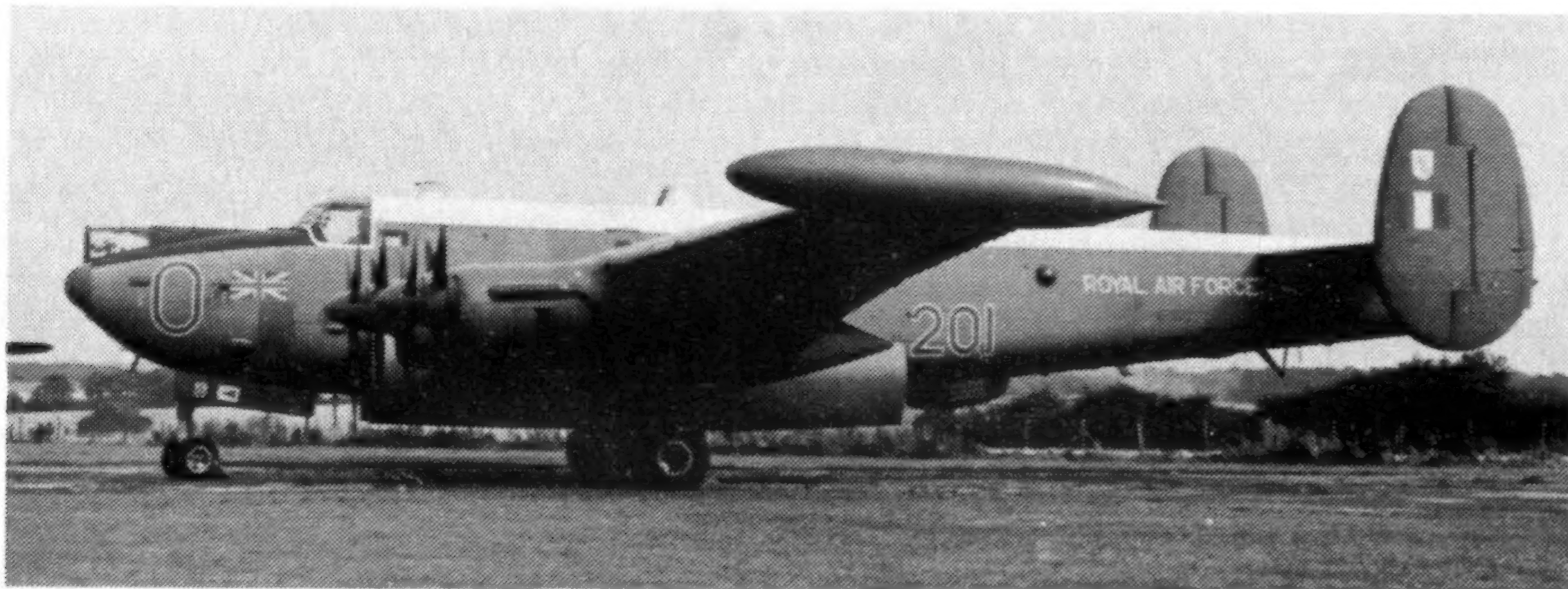




Shackleton XF704 as a Phase 3 aircraft soon after conversion in 1965. It carries full operational equipment and a set of No.201 Sqdn. markings at the most colourful period in the Shackleton's history. (Author)



Shackleton MR.3 WR976 was the first RAF squadron aircraft when it joined No.220 Sqdn in August 1957. In this picture it is coded 'M' with No.201 Sqdn. after Phase 3 modifications had been completed.(APN)



This Shackleton MR.3 WR977/O transferred to No.201 Sqn after service with No.206 Sqdn. in April 1963 following the completion of Phase 2 modifications and repairs. It was sold to the Newark Air Museum as part of their collection on retirement. (APN)

conversion at Langar until 1.65 when delivered to 206 Sqn as 'S'. Transferred to 120 Sqn 3.66 becoming 'A'. To HSA 1.67 for Viper fit and retained code on return to Kinloss Wg 7.67. To Bitteswell 5.69-6.69, but otherwise at Kinloss until sent to St Athan 24.8.70 and scrapped 10.71.

**WR976** Aw/Cn 19.7.57. To 23 MU 9.8.57 and 220 Sqn 30.8.57 (first RAF Sqn aircraft) becoming 'K'. Nose undercarriage collapsed after hydraulic failure 2.5.58 and underwent repair by Avro 5.58-12.58. To 201 Sqn still as 'K' 12.58, then to 49 MU 4.59-9.59 for Ph 1 mods. To 206 Sqn 10.59 and coded 'F' until 2.60 when left for Ph 2 conversion. Returned to 206 Sqn 3.60 still as 'F' until 5.63 when to MoA on free loan before going to HSA for Ph 3 mods 9.63. These continued until 4.65 when WR976 joined 201 Sqn as 'M'. After a further spell at Langar for Viper fitment 4.66-10.66, the aircraft rejoined 201 Sqn and became 'K'. Transferred to the Kinloss Wg 2.67 as 'P'. Crashed in sea 180 miles off Lands End 19.11.67.

**WR977** Aw/Cn 31.8.57. To 23 MU 16.9.57 and 220 Sqn 10.57 becoming 'L'. This code retained when unit renumbered 201 Sqn 1.10.58. To Avro 5.59-11.59 for Ph 1 mods. To 206 Sqn as 'B' 11.59 until 1.62 when underwent Ph 2 mods by Avro until 4.63 (included repairs). Transferred to 201 Sqn coded 'O' 4.63 until 7.65 when commenced Ph 3 conversion at Langar. Completed 4.66, went to 42 Sqn 5.66 as 'B', remaining until 5.68 when to Bitteswell for mods. To 203 Sqn 7.68, still as 'B'. To 206 Sqn 7.69, but a month later was with 42 Sqn, still as 'B'. Finally returned to 203 Sqn 8.70 remaining until withdrawn and sent to Finningley 8.11.71 for fire practice. Retained by their museum and later disposed of to Newark Air Museum.

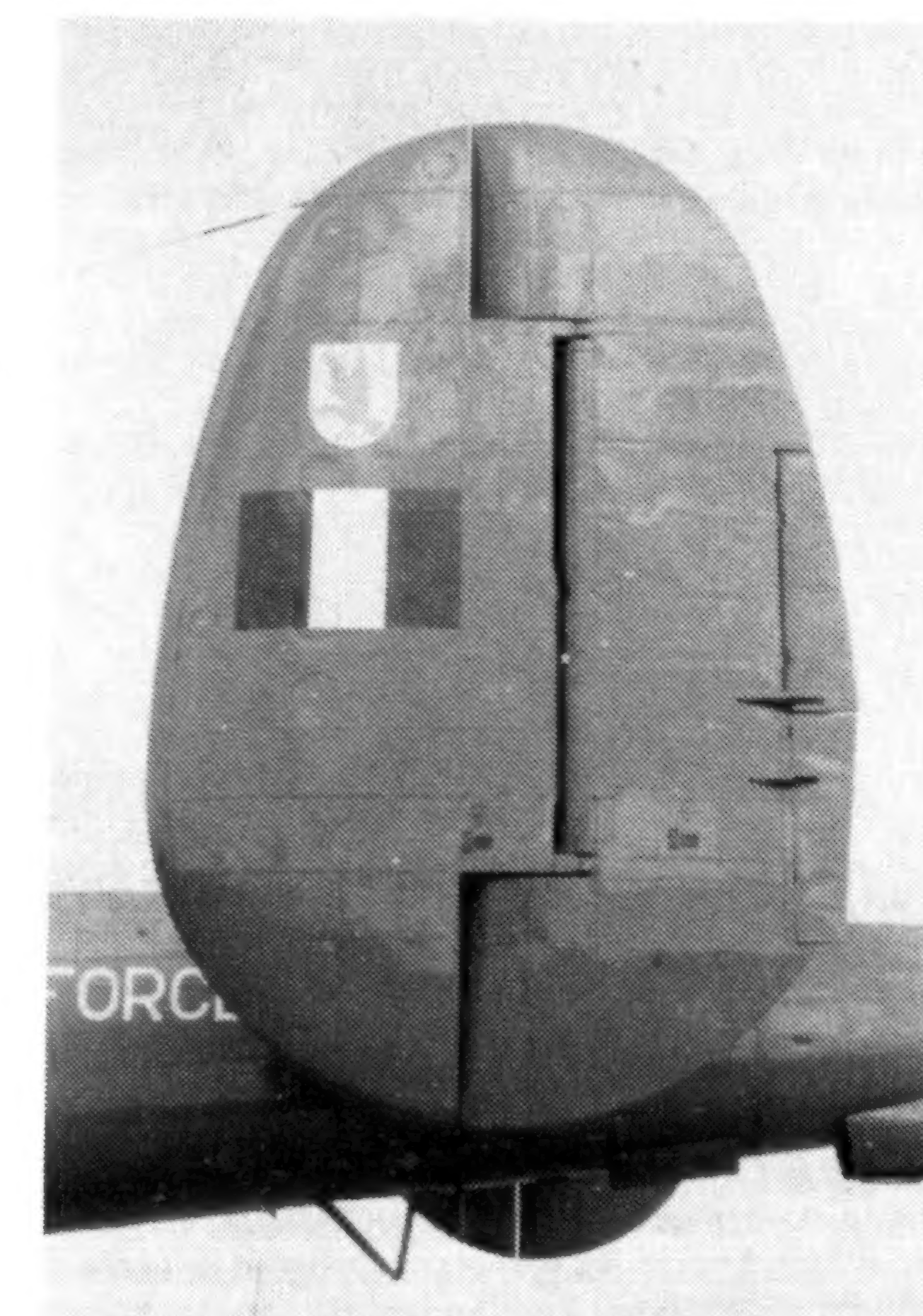
**WR978** Aw/Cn 31.10.57. To 23 MU 4.11.57 and 220 Sqn later in the month, becoming 'M'. This code retained when unit renumbered 201 Sqn 1.10.58. To 49 MU for Ph 1 mods 5.59 after Cat.3 repairs by Avro. Transferred to 206 Sqn 10.59 as 'E' until 4.62 when modified to Ph 2 by Avro and rejoined 206 Sqn as 'A'. Remained until 31.12.64 when converted to Ph 3 standard by HSA and went to 42 Sqn 11.65 becoming 'A'. To Woodford 7.66-11.66 for Viper fit and then to Kinloss 7.69-9.69 before returning to 42 Sqn, still as 'A'. Flown to 5 MU Kemble 6.4.70, it went to the Catterick Fire School 29.11.70.

**WR979** first flown 1.11.57 and Aw/Cn 14.11.57. To 23 MU 15.11.57 and 220 Sqn 12.57 becoming 'N' and transferring to 201 Sqn 1.10.58. To Avro 4.59, returning to 201 Sqn 9.59 as a Ph 1 coded 'M' until 10.61 when to Avro for Cat 4 repair and Ph 2 mods. To 206 Sqn as 'B' 1.63 until 11.64 when to Langar for Ph 3 conversion completed 9.65. Joined 120 Sqn 10.65 and coded 'D', retaining these markings when transferred to Kinloss Wg 2.67. Apart from visits to HSA 10.68-12.68 remained until 30.7.70 when flown to St Athan. Scrapped 10.71.

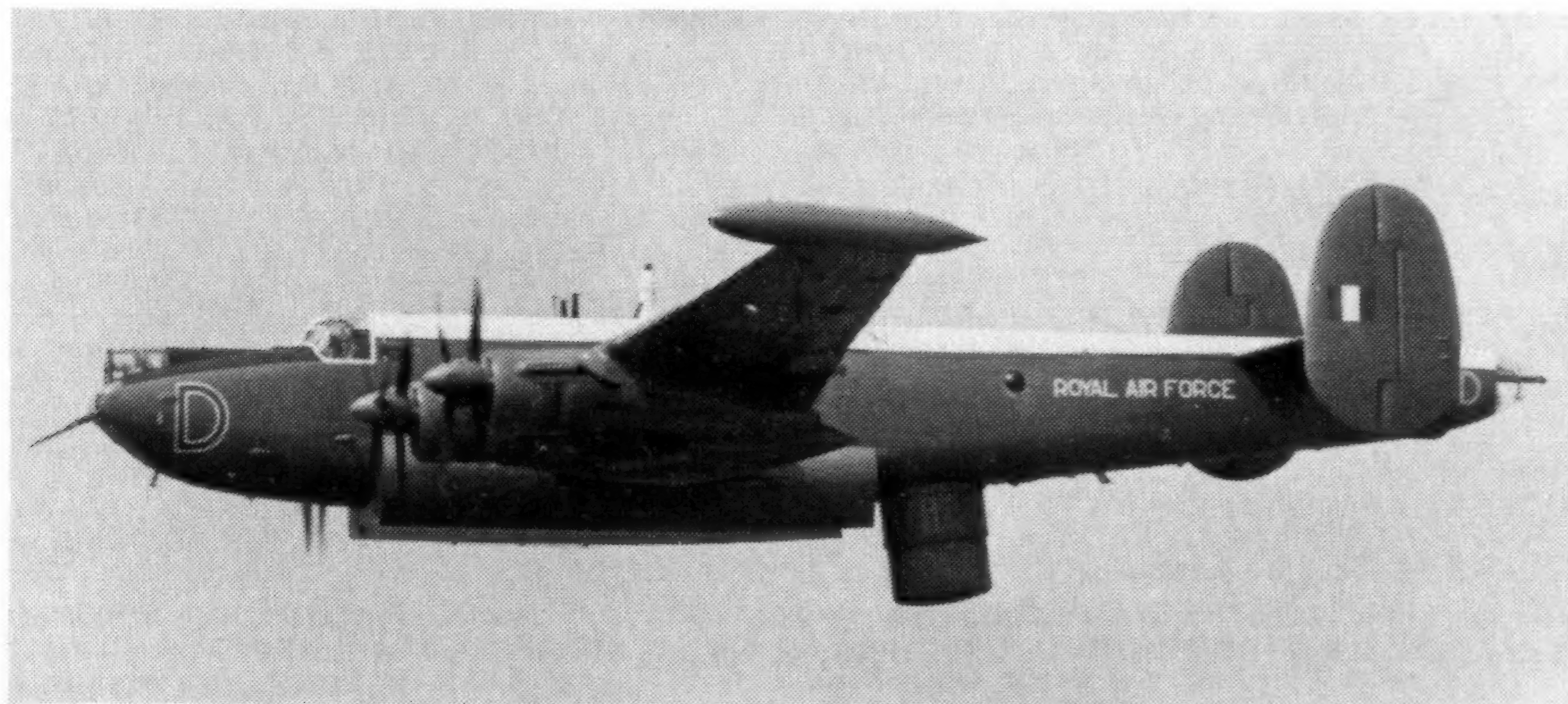
**WR980** Aw/Cn 30.11.57. Delivered to 23 MU 11.57 and 220 Sqn 1.58 and coded 'O'. Retained code when unit renumbered 201 Sqn 1.10.58. Ph 1 mods by Avro 3.59-12.59 and then to 206 Sqn as 'E' until 11.61. After Ph 2 mods and repair by Avro 11.61-3.63 the aircraft returned to 206 Sqn as 'D'. Transferred to 201 Sqn as 'L' 3.64 and 120 Sqn in 5.65. Almost immediately went for Ph 3 conversion at HSA 6.65 joining 206 Sqn on completion 3.66 as 'S', retaining this code with Kinloss Wg from 2.67. To Bitteswell for mods 8.69, returning to Kinloss until flown to 5 MU Kemble 3.4.70. To Catterick Fire School 26.11.70.

**WR981** Aw/Cn 20.12.57. To 23 MU Aldergrove 24.12.57 and 206 Sqn 1.58 becoming 'A'. Repairs by Avro 5.59 and to 49 MU 11.59 for Ph 1 mods. Completed 1.60, WR981 was issued to 120 Sqn 4.60 still as 'A'. To 49 MU again 5.61 for Ph 2 mods, transferring to 203 Sqn 9.61 as 'E'. To 23 MU 10.61-11.61, then 206 Sqn until 1.62 when sent for repair by Avro. On completion 3.62 went to 203 Sqn until transferred to 201 Sqn as 'P' 6.62. In 1.64 commenced Ph 3 conversion at HSA and issued to 120 Sqn on completion 7.65 as 'B'. Moved to 201 Sqn as 'N' 5.66 until 9.66 when sent for Viper fitment. Completed 2.67, the aircraft then joined 120 Sqn as 'G' retaining this code with the Kinloss Wg. Visited Bitteswell for mods

No.201 Sqdn's seagull badge appeared on the fin of all Shackleton aircraft on strength during the mid-sixties. (A.W.Hall)







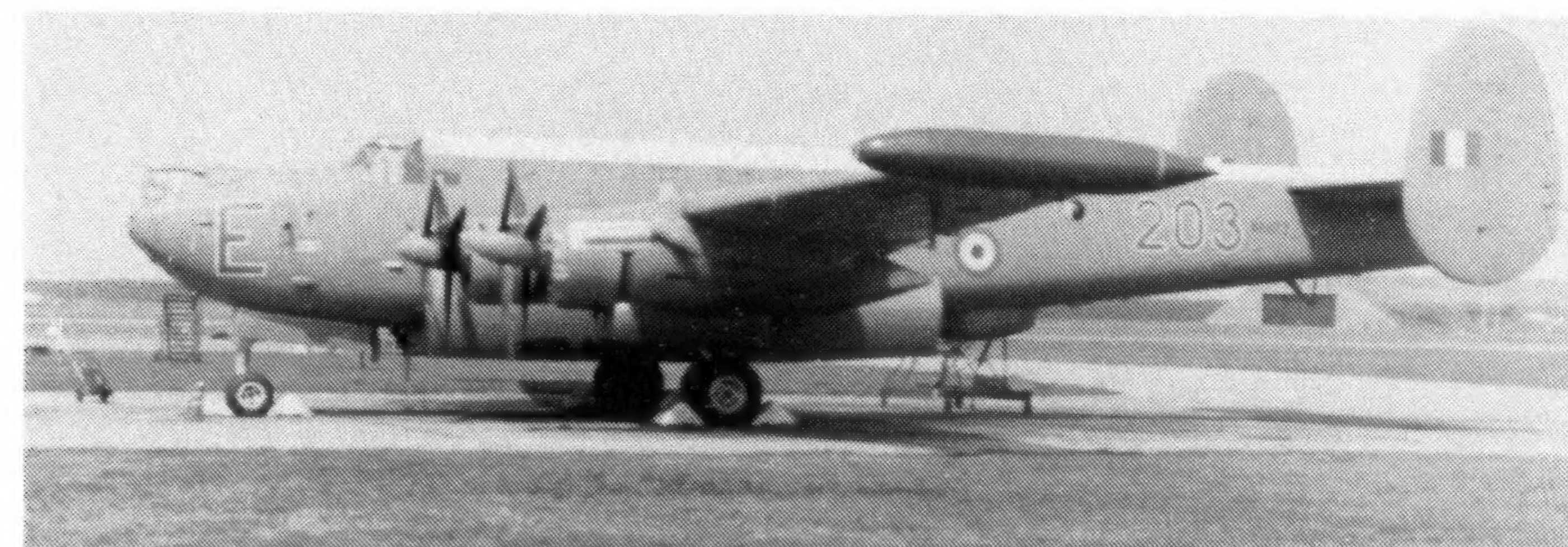
Everything hanging down! With bomb doors open and radar scanner fully extended, Shackleton MR.3 WR979 of the Kinloss Wing demonstrates its attack configuration at an air display in the late sixties. (APN)

- 10.68-11.68, 6.69-8.69 and 6.70-8.70. Left Kinloss for St Athan 27.11.70, moving to Topcliffe 17.12.70 as Instructional Airframe 8120M.
- WR982** Aw/Cn 26.2.58. To 23 MU 2.58 and 206 Sqn 3.58 as 'B'. On MoA free loan to Avro 4.58-6.58, extended to 6.59, then returned to 206 Sqn 7.59-11.59. To 49 MU for Ph 1 mods before joining 203 Sqn as 'G' 1.60. Withdrawn 11.61 for mods by Avro and transferred to MoA on free loan 26.1.62 as Ph 3 TI aircraft. Following conversion, carried out armament trials at A&AEE during 1964-65. To 120 Sqn 11.65 as 'A', received Vipers 3.66-7.66 and joined 201 Sqn as 'J'. Transferred to Kinloss Wg 2.67, went to 60 MU 3.67-5.67 and then to MinTech 8.67-11.67 for further Viper trials at A&AEE. Returned to Kinloss until withdrawn 9.70 and sent to Cosford as Instructional Airframe 8106M 6.10.70.
- WR983** Aw/Cn 14.3.58. To 23 MU 3.58 and 206 Sqn 4.58 as 'C'. Went to 49 MU 6.59-11.59 for Ph 1 mods, returning to 206 Sqn as 'D' 11.59. Modified to Ph 2 standard at Avro 1.60-2.60, WR983 again joined 206 Sqn and remained, except for repairs by Avro 2.62-5.63, until 11.64 when sent for Ph 3 conversion. On completion 10.65 went to 120 Sqn as 'E', retaining this code on transfer to the Kinloss Wg 2.67. Visited Woodford 4.67-6.67 and Bitteswell 6.68-8.68 for mods/overhaul, finally leaving Kinloss for Kemble 9.3.70. Broken up during summer 1970, parts going to Colerne for instructional purposes.
- WR984** Aw/Cn 31.3.58. To 23 MU 4.58 and issued to 206 Sqn later in month as 'D'. Cat 3 repairs at Avro 6.59 and to 49 MU 11.59 for Ph 1 mods. Joined 203 Sqn 16.2.60 as 'H'. To 49 MU 10.60 for Ph 2 mods, returning to 203 Sqn as 'J' until 7.62 when transferred to 201 Sqn and coded 'L'. Went for Ph 3

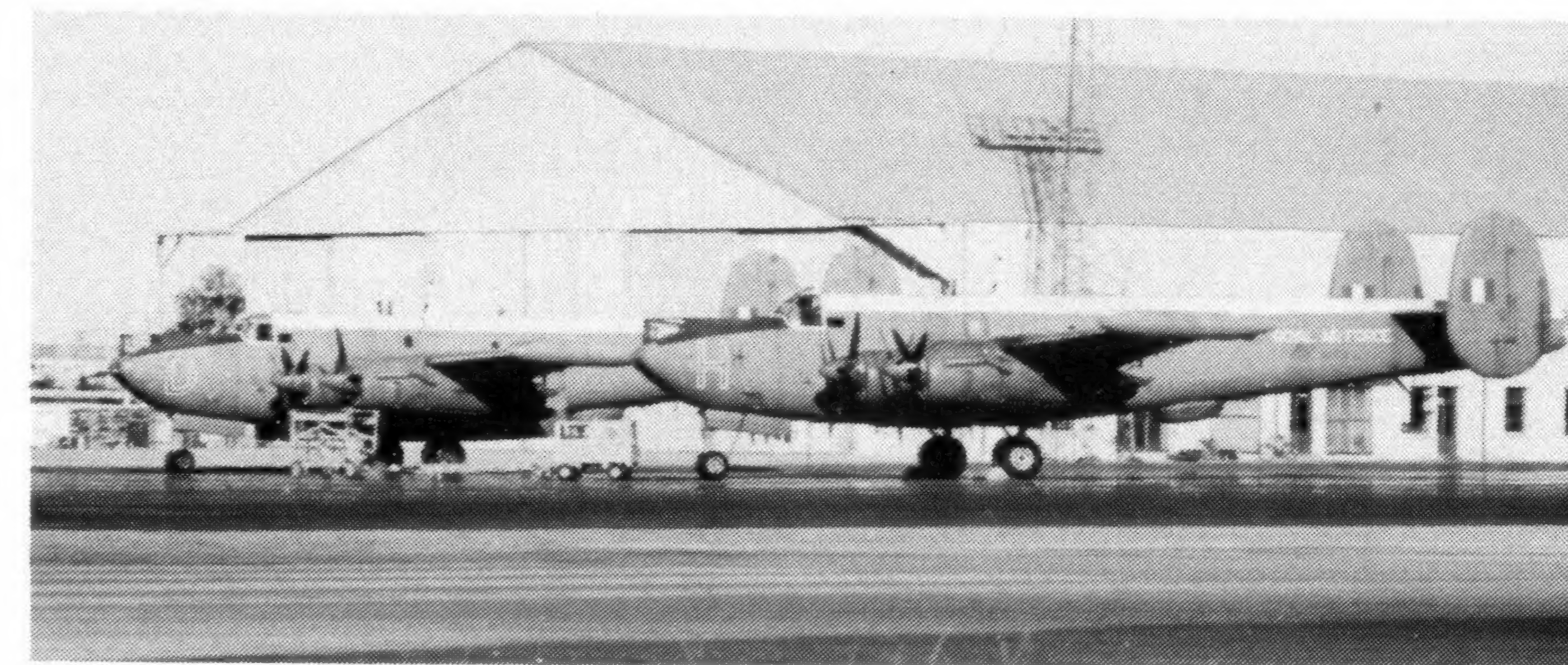
- conversion 3.64-8.65, then to 120 Sqn as 'C'. To HSA 8.66-12.66, returning to 120 Sqn and retained code with Kinloss Wg from 2.67. To 42 Sqn 11.67 still as 'C' and apart from overhaul/mods at Bitteswell 2.68-5.68 and 6.69-9.69 remained at St Mawgan until going to Topcliffe 9.11.70 as Instructional Airframe 8115M.
- WR985** Aw/Cn 17.4.58. To 23 MU 4.58 and 206 Sqn 6.58 as 'E'. Loaned to A&AEE 4.59-5.59 and went to 49 MU 10.59-12.59 for Ph 1 mods. Issued to 203 Sqn as 'J' and after Cat.3 repairs returned to 49 MU 8.61 for Ph 2 mods. To 206 Sqn 2.62 as 'A', remaining at St Mawgan until sent to Langar 6.63 for Ph 3 conversion. In 2.65 returned to 206 Sqn as 'T'. After flying accident 13.9.65 was repaired by 60 MU 10.65-11.65. Transferred to 120 Sqn as 'H' 5.66. Mods at Woodford 6.66-10.66 and then joined 201 Sqn still as 'H'. To Kinloss Wg 2.67 where it remained, except for a visit to Bitteswell 10.68-12.68 for mods, until withdrawn 9.70. To Cosford as Instructional Airframe 8103M 25.9.70.
- WR986** Aw/Cn 30.4.58. To 23 MU Aldergrove 5.58 and 206 Sqn 6.58 as 'F'. To Avro 10.59-12.59 for Ph 1 mods, then 203 Sqn as 'K'. With 49 MU 7.60 and undergoing Cat.3 repair 5.61. Transferred to 201 Sqn 10.61 as 'M' until 6.62. Undergoing Ph 2 mods from 7.62 at Avro, joining 120 Sqn as 'E' 9.63 until 10.65 when it left for Ph 3 conversion at Langar. Completed 9.66, it was issued to 203 Sqn, and coded 'G' 2.67. At Bitteswell 7.69-11.69, otherwise remaining with 203 Sqn until written off 1.9.71 following discovery of severe damage due to rat infestation. Broken up at Safi MU, Malta.
- WR987** Aw/Cn 23.5.58. Delivered to 23 MU 5.58 and to 220 Sqn the following month, becoming 'R'. Retained code when squadron renumbered 201 on 1.10.58. Transferred to 120 Sqn as 'G' 11.58 and sent



Shackleton MR.3 WR975 was issued to No.203 Sqdn. in November 1959 and remained with them until August 1961 when it went to No.49 MU for Phase 2 modifications. (MAP)

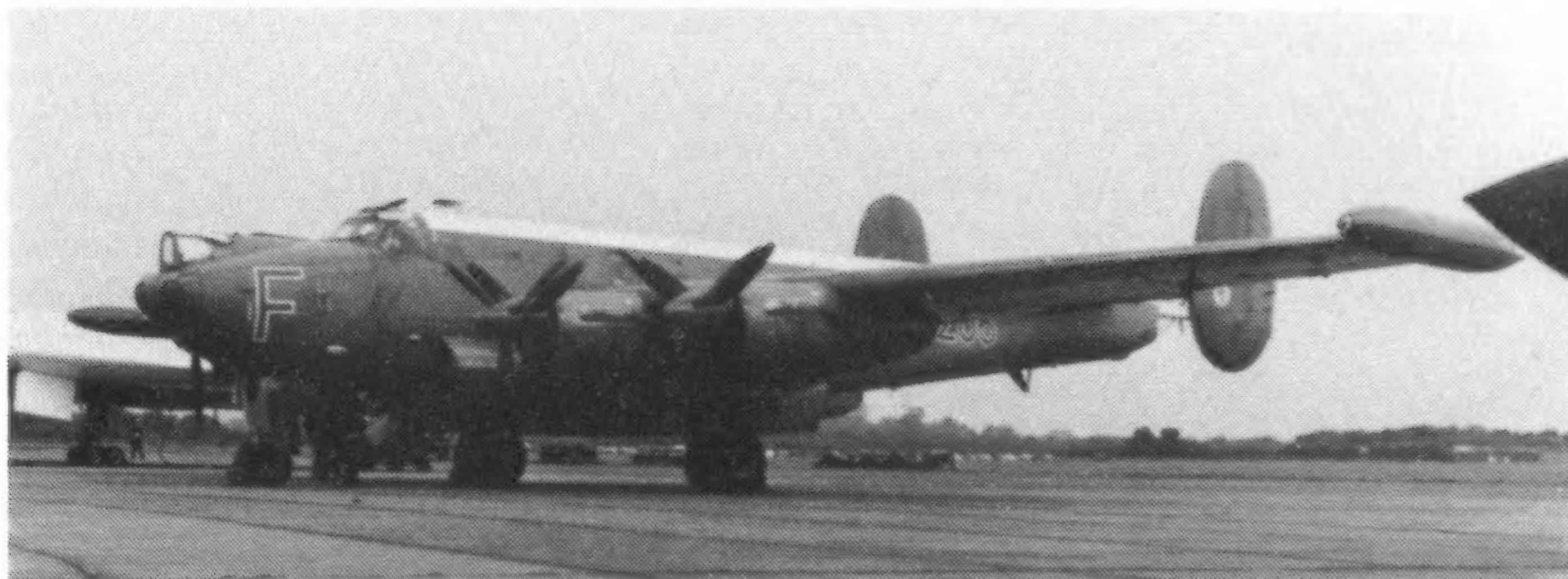


Issued to No.203 Sqdn. in February 1960, Shackleton MR.3 WR973/E went to No.49 MU in July 1960 for Phase 2 modifications returning in October of that year. It transferred to No.206 Sqdn. in January 1962 coded 'C'. (MAP)



Two unidentified Shackleton MR.3s of the Kinloss Wing seen outside the main servicing hangar at RAF Luqa, Malta in September 1969. Malta was a favourite exercise venue for Shackleton squadrons during this period, these co-operating with the aircraft of No.203 Sqdn. which was permanently based there. (G. Mangion)

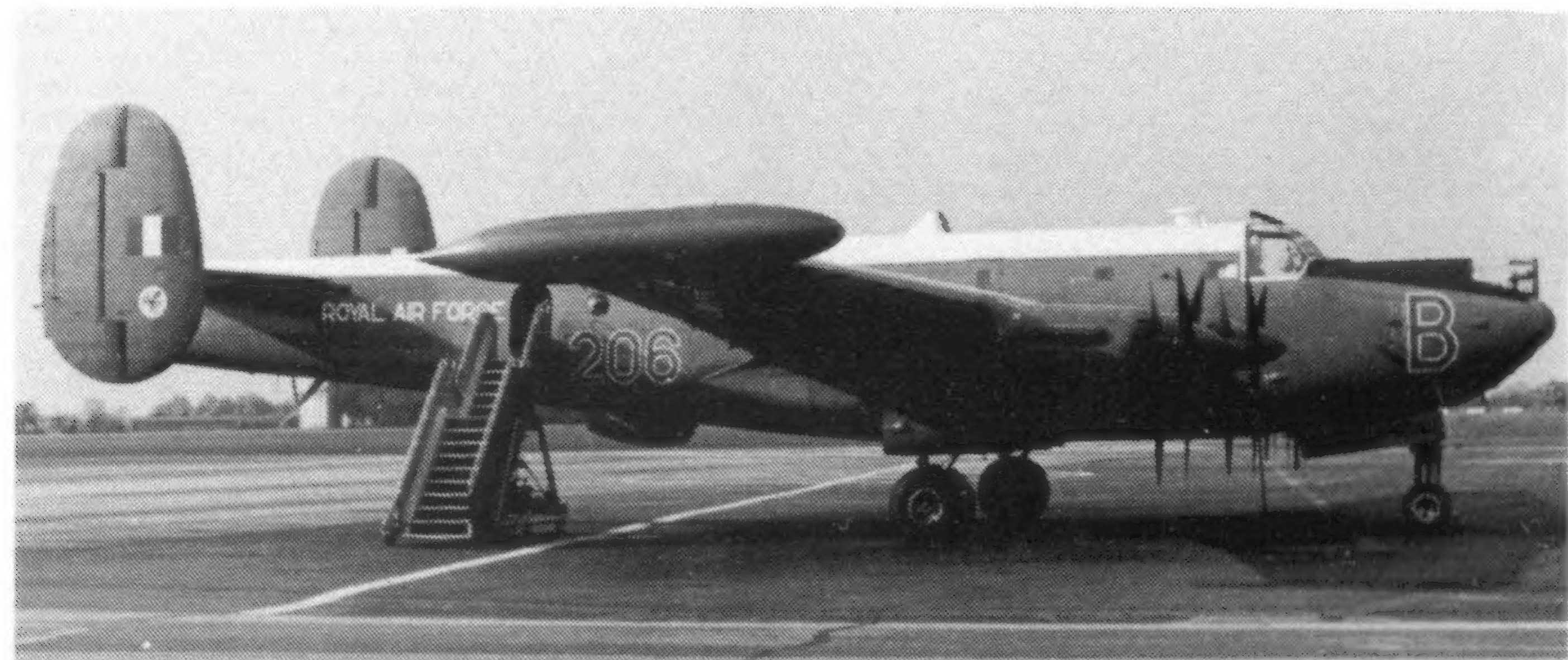




Shackleton MR.3 WR976, because of its distinction of being the first Shackleton of this variant to enter RAF service was a frequent participant in air shows. It is seen here in 1962 sandwiched between a Vulcan and a Javelin. (MAP)



This Shackleton MR.3 XF707 was the last to be fitted with Viper auxiliary engines in the outer engine nacelles. This picture shows it in No.206 Sqdn. service in 1965 during a Battle of Britain display at Gaydon. (APN)



After service with Nos.220 and 201 Sqdns, Shackleton MR.3 WR979 went to No.206 Sqdn. following Phase 2 modifications. Arriving in January 1963 it left again in November 1964 for Phase 3 updating. (APN)

to 49 MU 6.60 for Ph 1 mods and repairs. Completed 7.61, the aircraft returned to 120 Sqn as 'G', went to Avro for Ph 2 mods 2.62, and back to 120 Sqn 4.62, this time as 'C'. To Langar for Ph 3 conversion 9.65, joining 203 Sqn as 'D' on completion in 12.66. To Bitteswell for mods/overhaul 5.68-8.68 and 10.69-12.69, but otherwise remained with 203 Sqn until flown to Kemble 12.1.72 for open storage. Moved to Honington for fire practice 17.6.72.

**WR988** Aw/Cn 28.5.58. Delivered to 23 MU 6.58 and 120 Sqn in 7.58, becoming 'C'. Mods at Avro 10.59-6.60 then to 49 MU 8.60 for Ph 1 mods, transferring to 203 Sqn 8.61 as 'J'. Left for Ph 2 mods at Avro 7.62, returning to 203 Sqn on completion until delivered to 201 Sqn 10.62 as 'K'. Went for Ph 3 conversion 6.65 and issued to 203 Sqn on completion 6.66 as 'E'. Apart from a visit to HSA 1.69-7.69 and a loan to 42 Sqn during summer 1970 WR988 remained with 203 Sqn until flown to 5 MU Kemble 1.72 for storage. SoC 25/4/72 and went to Machrihanish for fire fighting.

**WR989** Aw/Cn 25.6.58. To 23 MU 7.58 and 120 Sqn 8.58 coded 'B'. Cat 3 repairs by Avro 11.59-1.60 and to 49 MU 6.60 for Ph 1 mods. Returned to 120 Sqn 8.61 but to Avro 10.61 for Ph 2 mods. Again to 120 Sqn 12.61 still as 'B' and remained until 12.63 when sent for Ph 3 conversion. On completion 6.65 transferred to 201 Sqn as 'K' until 11.66 when to 120 Sqn for a month before going to Woodford for Viper installation 12.66-4.67. Returned to Kinloss, spent 5.67 at 60 MU Leconfield and was loaned to MinTech for icing trials on the Viper installation at A&AEE 4.68-6.68. Visited Bitteswell 8.68-10.68 and 8.69-10.69 before transfer to 203 Sqn 3.70 as 'K'. To

Bitteswell again 1.71-2.71, then retained by 203 Sqn until delivered to 5 MU Kemble for open storage 12.1.72. to Leeming for fire practice 14.7.72.

**WR990** Aw/Cn 11.7.58. To 23 MU 7.58 and 120 Sqn 9.58 being coded 'D' until 3.60. To 49 MU Colerne 3.60-4.61 for Ph 1 mods, returning to 120 Sqn as 'F' 4.61. Repairs at Avro 1.62-2.62, then 49 MU for Ph 2 mods 10.62 and back to 120 Sqn 1.63. Underwent Ph 3 conversion 11.63-4.65 and then to 201 Sqn 5.65 as 'N', remaining with unit, apart from Viper fit at Langar 4.66-9.66, until transferred to the Kinloss Wg 2.67. To 60 MU for radio altimeter trial 10.68, returning to Kinloss until transferred to RAF Newton as Instructional Airframe 8107M 17.10.70.

**XF700** Aw/Cn 15.8.58. Delivered to 23 MU 8.58 and to 120 Sqn the following month, becoming 'A'. At 49 MU 4.60-4.61 for Ph 1 mods and repairs, returning to 120 Sqn. To Avro 10.61-11.61 for Ph 2 mods and back to 120 Sqn 11.61-7.62 still as 'A'. Delivered to HSA for Ph3 conversion 8.63. To 206 Sqn 3.65 as 'U', transferring to 201 Sqn as 'M' 5.66. Viper fit 12.66-4.67 at Woodford, returning to the Kinloss Wg still as 'M' and, except for a visit to Bitteswell for mods 5.68-6.68, remained in Scotland until 1.69 when transferred to 203 Sqn as 'F'. To Malta with the squadron, remaining until sent to Nicosia Airport, Cyprus, for fire practice 26.10.71. Scrapped 1.72 after spares recovery by 103 MU.

**XF701** Aw/Cn 29.8.58. To 23 MU 9.58 and 120 Sqn 10.58, becoming 'F'. Transferred to 49 MU for Ph 1 mods 5.60-6.61 and loaned to the MoA for C(A) work at Langar 7.61-8.62 during which time it underwent Ph 2 mods. Spent 6.62-7.62 at A&AEE on radio compass trials. To 206 Sqn 8.62 as 'E' until 2.65 when

Shackleton MR.3 WR976 is illustrated on page 12 coded 'M' when in service with No.201 Sqdn. It was part of No.206 Sqdn. from 1959 to 1963 and is shown here with the radome partly extended and before the fitment of the ECM plinth on top of the fuselage. WR976 ended its days on 19 November 1967 when it crashed into the sea 180 miles off Lands End. (MoD Air)





transferred to 201 Sqn coded 'N'. Ph 3 conversion commenced 5.65 and on completion 4.66 XF701 went to 206 Sqn as 'T'. This code was retained on transfer to the Kinloss Wg 2.67. The aircraft spent a short time at A&AEE in 1968 and was modified at Bitteswell 1.69-4.69 but otherwise remained at Kinloss until transfer to 42 Sqn 6.70 and coded 'B'. Another visit to Bitteswell for mods in 10.70-11.70 resulted in recording to 'H' on return to 42 Sqn. Flown to Manston for the Fire School 13.8.71.

**XF702** Aw/Cn 23.9.58. To 23 MU 9.58 and 203 Sqn 11.58, probably coded 'H'. To 49 MU 1.60-3.60 for Ph 1 mods. On completion, went to 120 Sqn as 'D' until 8.61 when returned to 49 MU for Ph 2 mods. To 206 Sqn 11.61 as 'B' until transferred to Avro

**XF703**

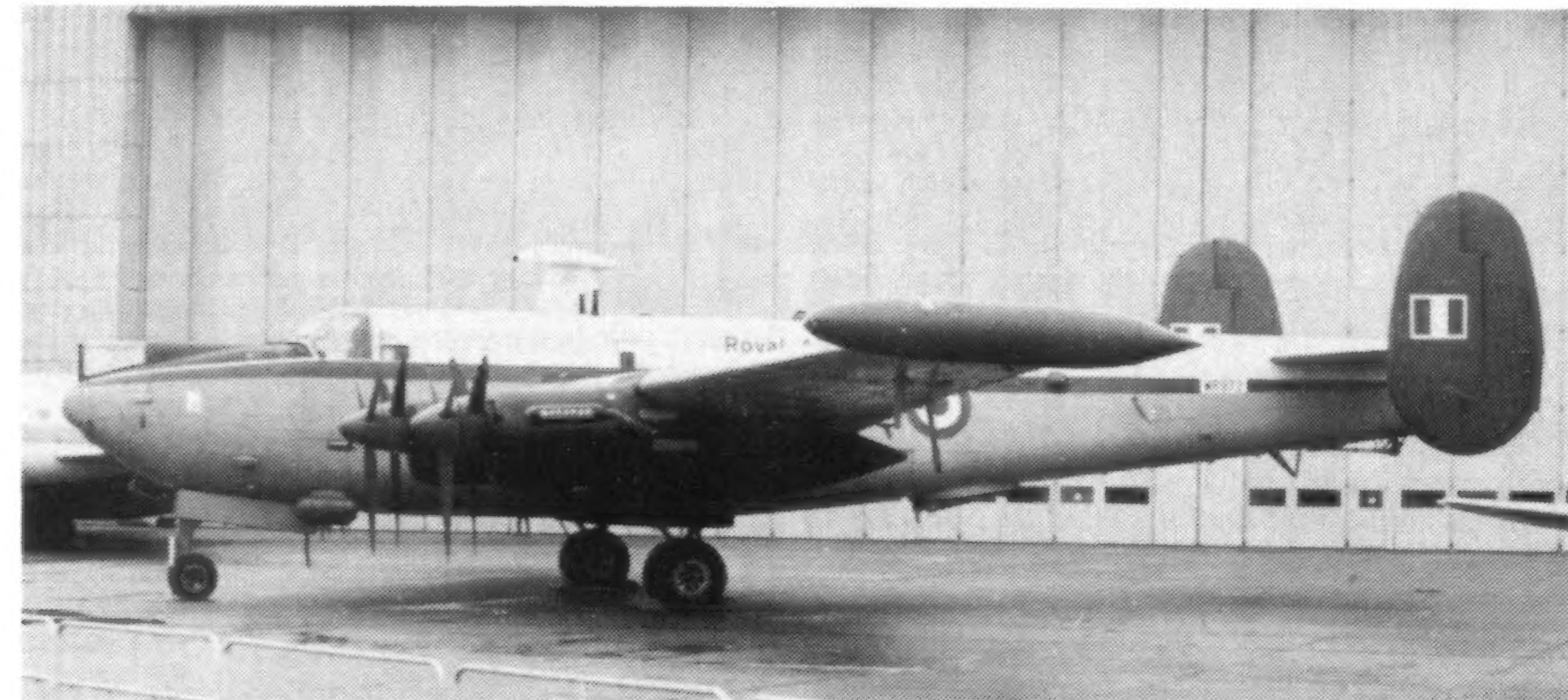
1.63. Converted to Ph 3 standard and then loaned to MoA before going to 206 Sqn 2.65 as 'O' until transferred to 120 Sqn 2.65 recoded 'B'. To Woodford for Viper fit late 11.66, returning to 120 Sqn 3.67, and still 'B' when transferred to the Kinloss Wg 2.67. On 21.12.67 it crashed into Creag Bhan, Lochailort, Invernesshire, following severe airframe icing in cloud.

Aw/Cn 3.10.58. Delivered to 23 MU 10.58, on the nominal strength of Ballykelly in 12.58 and transferred to 203 Sqn in 1.59, becoming 'L'. Ph 1 mods at 49 MU 1.60-4.60 and issued to 120 Sqn 5.60 as 'F', returning to 203 Sqn 5.61 with same code. Commenced Ph 2 mods 11.61 and issued to 206 Sqn 4.62, becoming 'D' until 3.63 when left for Ph 3 conversion. To 206 Sqn 12.64 as 'R', but loaned to HSA 1.65-2.65.

**RAE Farnborough's specially modified Shackleton MR.3 WR972 seen at Gibraltar in September 1964 during one of its many overseas flights. The picture shows in detail the modifications made to the rear fuselage. (R.J.Harper)**



Although a standard MR.3 when it left Woodford on 18 December 1956, WR972 was destined never to see operational service. It was bought by the Ministry of Aviation for trials work at RAE Farnborough in 1959 and had the tail unit modified for parachute testing. These pictures show it in its two colour schemes. Above: Silver overall with black and white stripes under the wings, fuselage and tail unit and, below, its final colours of white upper surfaces, medium grey lower surfaces and a blue cheat line. (Author)



Transferred to 201 Sqn 3.66 and recoded 'O'. Nominally taken over by Kinloss Wg 2.67, it went to Woodford 4.67-9.67 before returning to Kinloss 9.67 as 'F'. To HSA 8.69-10.69 and again in 12.69-4.70 before transfer to 42 Sqn 6.70 as 'D'. Again with HSA 7.70-8.70 it returned to 42 Sqn and recoded 'J'. It was destined to be the last Mk.3 in 18 Group service. Flown to Henlow 23.9.71 for preservation by the RAF Museum.

**XF704** Aw/Cn 30.10.58. Though nominally to 240 Sqn 11.58, actually went to 203 Sqn and, after a spell uncoded, became 'G'. After Ph 1 mods 2.60-4.60 at 49 MU it was transferred to 120 Sqn as 'G'. Cat.3 repairs by Avro 6.60-8.60 and recoded 'D' 8.61. Went to Avro for Ph 2 mods 5.62, returning to 120

Sqn 7.62 remaining 'D' until 10.63. To industry for Ph 3 conversion, on completion joining 201 Sqn 5.65 as 'L'. Crashed into the Moray Firth eight miles north of Kinloss 8.12.65 while on local flying.

**XF705**

Aw/Cn 21.11.58. Delivered to 203 Sqn 12.58 and coded 'C'. To 23 MU 6.59, returning to 203 Sqn 9.59. To 49 MU 2.60-5.60 for Ph 1 mods. Went to 120 Sqn 6.60 as 'B' until 8.61 when to 49 MU again for Ph 2 mods. Rejoined 203 Sqn 11.61, then transferred to 201 Sqn 6.62 becoming 'M'. Cat.3 repair 8.62-10.62 by Avro, before returning to 201 Sqn until 3.65 when it left for Ph 3 conversion. On completion went to Kinloss 4.66 for 206 Sqn as 'R', retaining code on transfer to the Kinloss Wg 2.67. Apart from mods at Woodford 12.68-3.69



and loan to MinTech for Airstream Direction Detector (ADD) stall warning trials at A&AEE Boscombe Down 3.69-8.69, the aircraft remained at Kinloss as 'R' until transfer to 42 Sqn 3.70 when recoded 'G'. After further mods at Bitteswell 9.70-10.70 the aircraft was recoded 'A' at St Mawgan and was finally withdrawn 20.8.71 when flown to Manston for the Fire School.

**XF706** Aw/Cn 19.12.58 and delivered to 203 Sqn at Ballykelly later in the month. Modified at 49 MU Colerne 12.59-3.60 to Ph 1 standard and then joined 120 Sqn as 'C' until 7.61. Returned to 49 MU 8.61 for Ph 2 mods and then issued to 203 Sqn 10.61 and coded 'G'. Spent part of 3.62 at 23 MU being prepared for 203 Sqn, remaining with the Ballykelly squadron until 8.62 when transferred to 201 Sqn as 'N'. Left for Ph 3 conversion at Woodford 11.64. To 42 Sqn 12.65 as 'E' and, apart from Viper fit 9.66-1.67 at Woodford and mods at Bitteswell 11.68-1.69, remained at St Mawgan until 7.69 when loaned to 206 Sqn. Returned to 42 Sqn 9.69 and finally withdrawn 2.70. Allocated 8089M as an Instructional Airframe, it was actually parked out at St Mawgan for fire practice on 6.3.70 and gradually destroyed.

**XF707** Aw/Cn 6.2.59 and delivered direct to 201 Sqn 2.59 with Ph 1 mods already incorporated. Coded 'P', the aircraft underwent Cat.3 repairs by Avro 3.60-5.60 and then went to Avro for Ph 2 mods and repair 4.62-6.63. Issued to 206 Sqn 7.63 and coded 'C' until 2.65 when sent for Ph 3 conversion. Completed 12.65, it went to 42 Sqn 1.66 as 'D' becoming the last aircraft to be fitted with Vipers 5.67-1.68, making its first flight with them installed on 19.12.67 from Woodford. Returned to St Mawgan and finally

**XF708**

withdrawn from use 4.71, being flown to Benson for fire practice 28.4.71. Delivered direct to 201 Sqn as Ph 1 3.59 and coded 'O', remaining until 5.62 when underwent Ph 2 mods. Issued to 120 Sqn 8.63 as 'A' until 11.65 when it left for Ph 3 conversion. After a spell with the MoA it was issued to 203 Sqn 2.67 and coded 'C'. Apart from mods by HSA it remained with 203 Sqn, transferring to Luqa 29.1.69 with the unit and remaining until 1.72 when flown to 5 MU Kemble. To Duxford 23.8.72 as a 'flying exhibit' for the Imperial War Museum.

**XF709**

Aw/Cn 20.3.59. Issued to 201 Sqn 4.59 as a Ph 1 aircraft and coded 'N'. Underwent Ph 2 modifications at Avro 7.62-10.63 and was then issued to 120 Sqn as 'D'. In 10.65 went to Langar for Ph 3 conversion. Completed in 7.66, the aircraft went to 203 Sqn 8.66, becoming 'F' 2.67 and remaining until 11.68. Was loaned to MinTech 3.69-5.69 and then became 'M' with the Kinloss Wg. Underwent mods at Bitteswell 10.69-11.69 before leaving Kinloss for St Athan 30.7.70. Scrapped 10.71.

**XF710**

Aw/Cn 31.3.59. To 201 Sqn 4.59 as Ph 1 aircraft and coded 'K'. Repaired by Avro 1.60, the aircraft returned to the factory for Ph 2 mods and repairs 8.62-11.63. On completion joined 120 Sqn as 'F'. Crash landed on Culloden Moor, Invernesshire after an uncontrollable engine fire 10.1.64.

**XF711**

Aw/Cn 24.4.59 and delivered to 201 Sqn 5.59 as Ph 1 aircraft, coded 'L'. Repaired by Avro 12.59, the aircraft was returned to the factory for Ph 2 mods 12.61. Joined the MoA fleet 1.62 on free loan as one of the Ph 3 TI aircraft. In 10.62 it was being stripped at Woodford for conversion and performance trials by the manufacturer and A&AEE

The first Shackleton MR.3 to be delivered to the South African Air Force was 1716 which adopted the code 'J' and operated with No.35 Sqdn. It is still operational, having had the wings resparred and a series of updates to the onboard electronic systems. (MAP)



In its natural element. A Shackleton MR.3 of No.220 Sqdn. flies low over the coast of Cornwall. The colour scheme of the aircraft, overall dark sea gray, was the initial colours of these aircraft when they first entered service in 1957. (MoD Air)

	(7.64-6.65). MoA loan completed 31.12.65 and aircraft issued to 42 Sqn 3.66 and coded 'G'. To HSA for Viper fit 6.67-9.68 after which transferred to the Kinloss Wg. To 42 Sqn 2.70 and coded 'C'. Went to Bitteswell 12.70-2.71 when returned to 42 Sqn as 'G'. Retired 6.71 when flown to Abingdon for fire practice.	<b>1717</b>	c/n 1527. Delivered 16.5.57 becoming 'O' of 35 Sqn, SAAF.
		<b>1718</b>	c/n 1528 35 Sqn, coded 'K'. Crashed 8.8.63 nr Cape Town.
		<b>1719</b>	c/n 1529 35 Sqn, coded 'L'. Current.
		<b>1720</b>	c/n 1530 35 Sqn, coded 'M'. Current.
		<b>1721</b>	c/n 1531. Delivered 26.2.58 becoming 'N' of 35 Sqn, SAAF. Current.
		<b>1722</b>	c/n 1532. Delivered 26.2.58 becoming 'P' of 35 Sqn, SAAF. Current.
		<b>1723</b>	c/n 1533. Delivered 26.2.58 becoming 'Q' of 35 Sqn, SAAF. Current.
<b>XF730</b>	Aw/Cn 31.5.59. To 206 Sqn 6.59 as Ph 1 aircraft and coded 'C' during WR983's absence on Ph 1 conversion. Underwent repairs by Avro 7.60-8.60 before transferring to 201 Sqn 12.61 as 'L' until 9.62. After Ph 2 at Avro 9.62-12.63 the aircraft joined 120 Sqn being coded 'B'. Commenced Ph 3 conversion 6.65 and, after trials of the Viper installation at A&AEE 3.66, went to 42 Sqn 6.66 as 'F'. Modified at Bitteswell 8.68-9.68, 5.69-7.69 and 9.70-10.70, otherwise remaining at St Mawgan until delivered to Kinloss 24.6.71 for fire practice.		

#### South African Contract

**1716** first flown 29.3.57. Delivered 16.5.57 becoming 'J' of 35 Sqn, SAAF.

**Notes:** The following abbreviations are used in text.  
A&AEE Aircraft & Armament Experimental Establishment.

ASWDU Air Sea Warfare Development Unit.

Aw/Cn Awaiting collection

c/n Construction number.

HSA Hawker Siddeley Aviation.

Ph Phase.

MinTech Ministry of Technology.

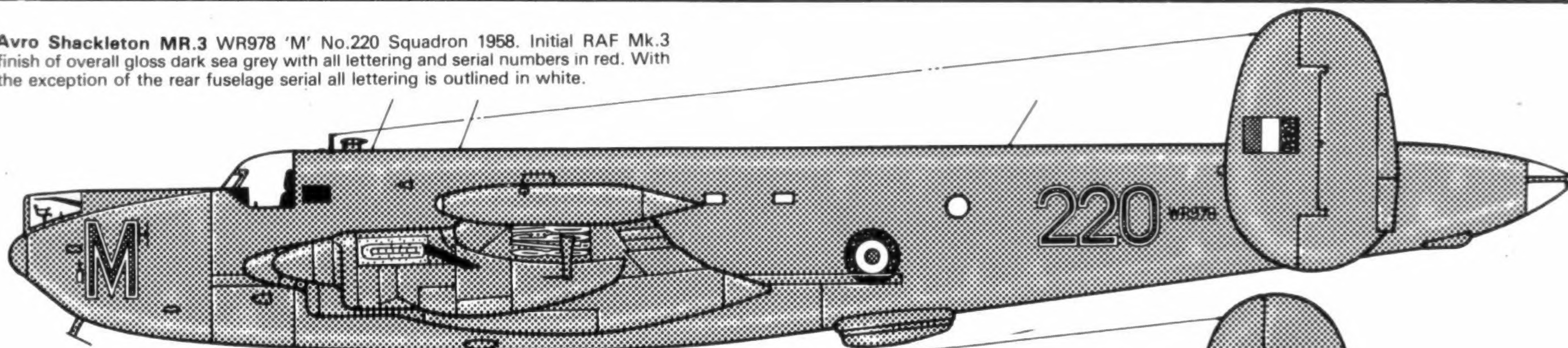
MoA Ministry of Aviation.

MU Maintenance Unit.

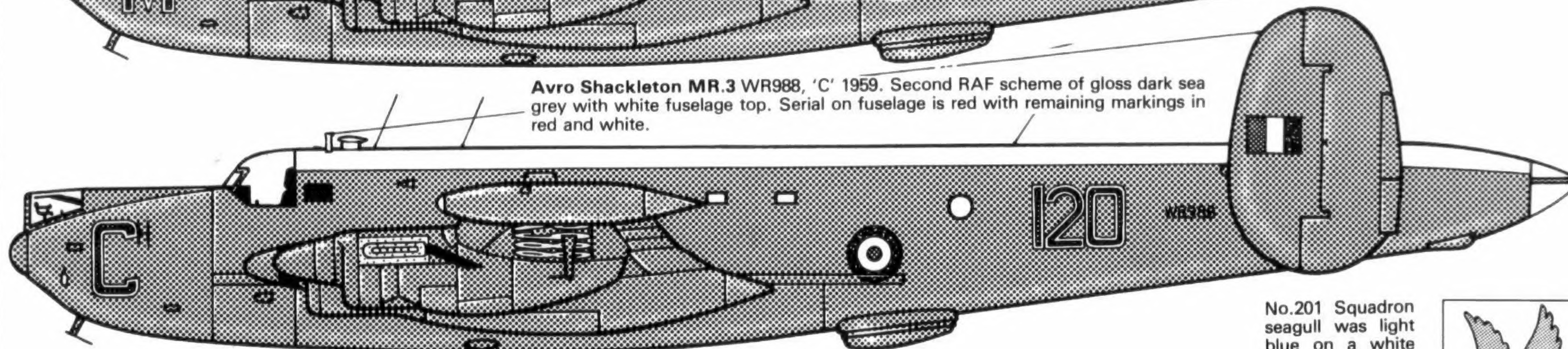
RAE Royal Aircraft Establishment.



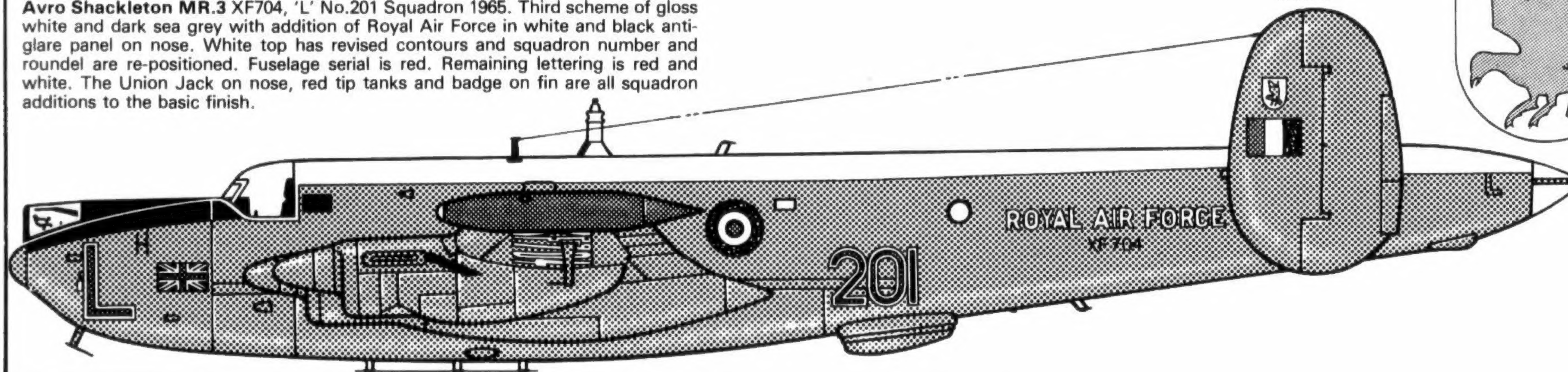
**Avro Shackleton MR.3 WR978 'M' No.220 Squadron 1958.** Initial RAF Mk.3 finish of overall gloss dark sea grey with all lettering and serial numbers in red. With the exception of the rear fuselage serial all lettering is outlined in white.



**Avro Shackleton MR.3 WR988, 'C' 1959.** Second RAF scheme of gloss dark sea grey with white fuselage top. Serial on fuselage is red with remaining markings in red and white.



**Avro Shackleton MR.3 XF704, 'L' No.201 Squadron 1965.** Third scheme of gloss white and dark sea grey with addition of Royal Air Force in white and black anti-glare panel on nose. White top has revised contours and squadron number and roundel are re-positioned. Fuselage serial is red. Remaining lettering is red and white. The Union Jack on nose, red tip tanks and badge on fin are all squadron additions to the basic finish.



No.201 Squadron seagull was light blue on a white shield.

